REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims recite statutory subject matter under 35 U.S.C. § 101, are not anticipated under 35 U.S.C. § 102, and are not unpatentable under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicants will now address each of the issues raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 101

Claims 1-32 stand rejected under 35 U.S.C. § 101. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Claims 1-32 have been amended to recite that the acts of the method are computer-implemented. Consequently, the acts of these method claims cannot be performed in the mind of a user, nor can they be performed merely by use of pencil and paper. Accordingly, these claims recite statutory subject matter and this ground of rejection should be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-26 and 33-58 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,754,939 ("the Herz patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Before addressing at least some of the patentable features of the claimed invention, the applicants will first introduce the Herz patent. The Herz patent concerns matching target objects (e.g., articles) with users. (See, e.g., column 55, line 41, et seq.) Specifically, the Herz patent uses information in a "target profile" for the target object and information in a "target profile interest summaries" for the user for this purpose. (See, e.g., the Abstract.)

More specifically, the target profile may include word frequency in the target object, as well as frequency of use of the word in all objects. (This is the common notion of document frequency-inverse document frequency.) More generally, the "target profile" may include attributes of the target object (See, e.g., column 4, lines 51-53.) The "target profile interest summaries" is a summary of digital profiles of target objects that the user likes and/or dislikes. (See, e.g., column 4, lines 55-58.) The information in the "target profile interest summaries" need not be entered by the user (active information), but rather, may be constructed using user interest feedback information (passive information). (See, e.g., column 6, lines 46-51.)

18

The Herz patent may estimate a user's interest in
various target objects by comparing the target profiles
of the target objects against the target profile interest
summaries (in the form of search profiles in the user's
search profile sets) to generate, for the user, a
customized rank-ordered listing of target objects that
are most likely of interest tot he user. (See, e.g.,
column 6, lines 51-58.) Thus, referring to the Appendix
filed herewith, which illustrates an overview of the Herz
patent, the target profile interest summary of user U and
the object profile of object X may be used to see if user
U would be interested in object X. However, the system
will not have feedback information from the user about
objects (e.g., articles) that have never been presented
to the user. To address this problem, as described in
Figure 12 and column 18, line 39 et seq., a likelihood of
interest in a particular target object for a specific
user can be automatically computed as the sum of (a) an
intrinsic quality of object X and (b) the "topical
interest" that *users **like** U* having in *target objects **like***
X.

As illustrated in the Appendix and described in
column 20, line 15 through column 21, line 22, the user
profile information is used to find users V like U.
Thus, although the Herz patent discusses storing user
attributes (e.g., age, zip code, income, past purchases,
etc.) as a "user profile" (See, e.g., column 4, lines 54
and 55.), such user profile information is for (or of) a
user, <u>not</u> for (or of) a document.

As used in the Herz patent, a "search profile" or a
"query profile" is a collection of attributes such that a
user should like target objects with a target profile

with a similar set of attributes. (See, e.g., column 4, lines 58-61.) The "attributes" are data that describe a target object and may include, for example, long pieces of text, short pieces of text, numeric measurements and associations with other types of documents. (See, e.g., column 6, lines 18-33.) The "search profile" for a user may be determined using target profiles of articles that the user has access and the relevance feedback that the user has provided. (See, e.g., column 55, lines 52-58.) The relevance feedback (also referred to as "passive feedback") may be a function of how much of (in terms of content or time) an article the user viewed (See, e.g., column 17, lines 33-49.), attributes of an email reply by the user (See, e.g., column 17, lines 50-52.), attributes of a purchase by the user (See, e.g., column 17, lines 52-58.), etc. As can be appreciated from the foregoing, the Herz invention uses relevance feedback (or passive feedback) to determine what types of objects (e.g., articles) a user likes, which in turn in used to help filter user searches. It does not, however, use past search queries submitted by a user to generate information for a user profile.

Finally, Figures 1 and 2 of the Herz patent illustrate nodes (as computers) and links (as communications links) in the context of computers that can communicate with one another over a communications network. These nodes and links are in no way related to nodes and edges of a graph, the topology of which can be used to infer user profile information.

Having introduced the Herz patent, the applicants will now address at least some of the patentable features of the claimed invention.

20

Claims 1-6 and 33-38

Since claims 2, 4, 34 and 36 have been canceled, this ground of rejection is rendered moot with respect to these claims.

Independent claims 1 and 33 have been amended to include the recitation of canceled claims 2 and 34, respectively. Specifically, these claims now recite an act of (or means for) determining initial user profile information for the user ***using past search queries submitted by the user***.

The Examiner contends that column 4, lines 58-61 teaches this feature. (See Paper No. 20050524, page 4.) The applicants respectfully disagree. As discussed above, as used in the Herz patent, a "search profile" or a "query profile" is a collection of attributes such that a user should like target objects with a target profile with a similar set of attributes. The "search profile" for a user may be determined using target profiles of articles that the user has access and the relevance feedback that the user has provided. The relevance feedback (or "passive feedback") may be a function of how much of (in terms of content or time) an article the user viewed, attributes of an email reply, attributes of a purchase, etc. Thus, the Herz invention uses relevance feedback (or passive feedback) to determine what types of objects (e.g., articles) a user likes, which in turn is used to help filter user searches. It does <u>not</u>, however, use past search queries submitted by a user to generate information for a user profile. That is, the search profile is used to help filter search results, but is <u>not</u> a product of (or determined using) past search queries.

21

Thus, independent claims 1 and 33, as amended, are not anticipated by the Herz patent for at least this reason. Since claims 3 and 5 depend from claim 1 and since claims 35, 37 and 38 depend, either directly or indirectly from claim 33, these claims are similarly not anticipated by the Herz patent.

Claims 7-13 and 39-45

Claims 7 and 39 have been rewritten in independent form to include the elements of original base claims 1 and 33, respectively. These claims are not anticipated by the Herz patent because the Herz patent does not teach acts of (or means for) inferring user profile information for the user by (i) defining a node for each of a number of documents and the user, (ii) adding edges between nodes if there is an association between the nodes to define a graph, and (iii) inferring user profile information for the user using a topology of the graph and user profile information of other documents. The Examiner refers to Figures 1 and 2 of the Herz patent, and contends that the nodes (computers) and links (communications links) teach these features. (See, e.g., Paper No. 20050524, page 5.) However, Figures 1 and 2 of the Herz patent show nodes and links in the context of computers that can communicate with one another over a communications network. These nodes and links are <u>in no way</u> related to nodes and edges of a graph, the topology of which can be used to infer user profile information. The Examiner also contends that the Herz patent teaches that users can be linked with documents, citing column 60, lines 62-64. This section merely concerns ranking links in a hypertext document, which are <u>in no way</u>

related to nodes and edges of a graph, the topology of which can be used to infer user profile information.

Since the nodes and links in the Herz patent are described in a totally different context, independent claims 7 and 39 are not anticipated by the Herz patent for at least this reason. That is, when interpreting the terms "nodes" and "edges", the Examiner improperly ignores the specification as it would be interpreted by one of ordinary skill in the art and improperly relies on a general purpose computer dictionary. In <u>Phillips v. AWH Corp.</u>, No. 03-1269, slip op. (Fed. Cir. July 12, 2005)(en banc), the Court of Appeals for the Federal Circuit ("the CAFC") stated:

> the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term."

<u>Id.</u>, at 13, quoting from <u>Vitronics Corp. v. Conceptronic, Inc.</u>, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

In the instant application, the specification discusses "nodes" in terms of representing users and documents on a graph and "edges" between the user node and document nodes for the top Web pages that were returned by a search engine in response to search queries that the user submitted, and perhaps between pairs of documents that have links (e.g., hyperlinks) between them. Specifically, with reference to Figures 10 and 11, the specification states:

> In one exemplary embodiment of the present invention, the association information 1070 may be **a graph in**

> *which users and documents are*
> *represented as nodes* 1072 and 1076,
> respectively. Figure 11 is a flow
> diagram of an exemplary method 1100
> that may be used to associate users
> and/or documents in a manner consistent
> with the present invention. As shown,
> *nodes may be defined for each user and*
> *document.* (Block 1110) For each of
> the user nodes 1072, *edges* 1074 (which
> indicate an association) *may be drawn*
> *between the user node and document*
> *nodes for the top Web pages that were*
> *returned by a search engine in response*
> *to search queries that the user*
> *submitted.* (In a variant, *the edges*
> 1074 *could be drawn only to Web pages*
> *that the user selected* (e.g., clicked
> on)). Additionally, *edges* 1078 *may be*
> *drawn between pairs of documents that*
> *have links (e.g., hyperlinks) between*
> *them.* (Block 1120) Although not
> shown, user-to-user associations may
> also be generated. For example, edges
> may be added between users that have
> visited one or more of the same
> documents. [Emphasis added.]

Page 25, lines 4-18. Thus, using the specification, one
of ordinary skill in the art at the time of the invention
would interpret "nodes" and "edges" as representations of
users and documents, and relationships between users and
documents, on a graph.

In the rejection, a *broadest possible interpretation*
is assigned to "nodes" and "edges" -- not the broadest
reasonable interpretation. Further, the Examiner ignores
that the broadest reasonable interpretation is "*in light*
of the specification as it would be interpreted by one of
ordinary skill in the art." Id., at 16, (Emphasis
added.) quoting In re. Am. Acad. of Sci. Tech. Ctr., 367
F.3d 1359, 1364 (Fed. Cir. 2004).

24

Thus, independent claims 7 and 39 are not anticipated by the Herz patent for at least the foregoing reason. Since claims 8-13 depend from claim 7 and since claims 40-45 depend from claim 39, these claims are similarly not anticipated by the Herz patent.

Further, since ranking links in a hypertext document in no way teaches edges of a graph, the topology of which can be used to infer user profile information, independent claims 7 and 39 are not anticipated by the Herz patent for at least this additional reason. Since claims 8-13 depend from claim 7 and since claims 40-45 depend from claim 39, these claims are similarly not anticipated by the Herz patent.

Claims 14-26 and 46-58

Independent claims 14 and 46 are not anticipated by the Herz patent because the Herz patent does not teach acts of (or means for) determining user profile information *for a document.* As indicated by Figure 5 of the present application, user profile information 524 may be associated with a document 522 (and other user profile information 514, 534, and 544 may be associated with other things 512, 532 and 542). As discussed in detail above, although the Herz patent discusses storing user attributes (e.g., age, zip code, income, past purchases, etc.) as a "user profile", such user profile information is for (or of) a user, not for (or of) a document. Thus, independent claims 14 and 46 are not anticipated by the Herz patent for at least this reason. Since claims 15-26 depend, either directly or indirectly, from claim 14 and since claims 47-58 depend, either directly or indirectly,

from claim 46, these claims are similarly not anticipated by the Herz patent.

Rejections under 35 U.S.C. § 103

Claims 27-32 and 59-64 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Herz patent in view of U.S. Publication No. 2002/0049635 ("the Mai publication"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Before addressing at least some of the patentable features of the claimed invention, the applicants will first introduce the Mai publication.

The Mai publication discusses filtering a set of ads to generate a subset of ads for display to a user. Such filtering may be a function of (a) a correlation of each ad to content being provided, and/or (b) a user profile. The user profile may include (a) user content preferences (based on past viewing), and/or (b) expressly entered demographic information.

Independent claims 27 and 59 are not rendered obvious by the Herz and Mai references because these references, either taken alone or in combination, neither teach, nor suggest, an act of (or means for) determining a second match value using **user profile information _of a document_** with which the ad will be served. As already discussed above, although the Herz patent discusses storing user attributes (e.g., age, zip code, income, past purchases, etc.) as a "user profile", such user profile information is for (or of) a user, <u>not</u> for (or of) a document. Similarly, in the Mai publication, the

26

user profile (which may include user content preferences (based on past viewing), and/or expressly entered demographic information is for a user (or client device), not for a document. Accordingly, independent claims 27 and 59 are not rendered obvious by the Herz and Mai references for at least this reason. Since claims 28-32 depend from claim 27 and since claims 60-64 depend from claim 59, these claims are similarly not rendered obvious by the Herz and Mai references.

Further, one skilled in the art would not have been motivated to combine the Herz and Mai references as proposed by the Examiner. Specifically, in the Mai publication, the filtering of advertisements is done locally at the client device. Apparently, this is because the user profile is stored locally on the client device, and the filtering is not too intensive. On the other hand, the storage of user information and the filtering of objects is done by servers, not by the client devices, in the Herz patent. Apparently, this is because the various profiles are stored at servers and because the filtering is non-trivial. In view of the foregoing fundamental differences between where user profile data is stored and where filtering is done in the Herz patent and the Mai publication, one skilled in the art would not have been motivated to modify the Herz patent in view of the Mai publication.
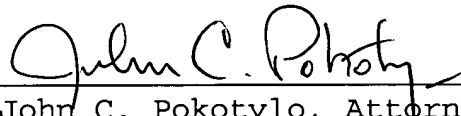
New claims

New claims 65-68 depend from claims 14, 46, 27 and 59, respectively, and further distinguish the claims over the cited art.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

October 6, 2005

John C. Pokotylo, Attorney
Reg. No. 36,242
Tel.: (732) 542-9070